

Appendix A

SOW 6643-A-0398

Aircrew Procedures Trainer (APT)
CH53E Device 2F171 S/N 001

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Trainer Description for Device 2F171 CH-53E APT
Located at
MCAS Futenma, Japan

1.1 TRAINER DESCRIPTION

1.1.1 Function and General Description:

a. The CH-53 APT was built by Manned Flight Simulator located at Patuxent River, Maryland. The CH-53E APT is installed in a self-contained facility that requires external power to operate. The CH-53E APT is designed to provide cockpit familiarization for the pilot and copilot training in normal flight procedures, and emergency procedures that are utilized in operation the tactical aircraft. The Ch-53E APT is a transportable training system that can be transported by air, sea or ground. This device provides a means for training and evaluating student pilots in the following areas:

- . Pre-Flight and starting procedures
- . Shutdown and post-flight procedures
- . Aircraft Maneuvers
- . Normal and emergency procedures
- . Electronic Warfare equipment operations
- . Normal and Water-based landing and takeoff procedures
- . Instrument flight procedures
- . Normal shipboard procedures
- . Weapons Deliver
- . Night Vision Goggle (NVG) operations
- . Tactical mission
- . Crew coordination

b. The APT consists of seven (7) functional systems: training station, visual system, instruction station, computer system and peripherals, Input/output (I/O) system, communications system, and power distribution system to include an Uninterrupted Power Supply (UPS).

c. The APT simulates the accuracy and response of the CH-53E helicopter controls, instruments, flight performance and characteristics, tactical and weapon systems. This simulation is supported by a visual system that presents realistic images of ground features, horizon, sky and cloud deck as view from the cockpit. An aural system generates environmental tones within the training area. The APT provides an instructor station located within proximity of the Trainee Station.

1.2 Trainee Station:

1.2.1 The cockpit consists of a salvaged and modified CH-53A helicopter's cockpit with all the simulated and stimulated instrumentation. The cockpit's interior shell dimensions are the same as those of the

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operational aircraft. The trainer's cockpit assembly provides a simulated environment for the pilot and copilot, providing them with a realistic-appearing cockpit made up of actual, modified, or simulated panels, console, indicators, controls (primary, secondary, and operational), seats, etc. The intent is to faithfully reproduce both the actual aircraft's normal and emergency flight characteristics, promoting a high fidelity and useful level of training.

The cockpit has numerous assemblies and subassemblies attached for providing the necessary components needed to ensure trainer functionality and a normal appearance. Trainer specific components include items such as headset boxes, seat-shakers, distribution panels, speakers, rudder pedal solenoids/relays, servo amplifier card file (p/o simulated standby compass), emergency power off box, etc.

1.2.2 The trainee station cockpits encompasses the following sub-systems:

a. Power-plant Systems. The engines of the design basis aircraft are simulated together with the related controls, control and instruments. Static and dynamic engine performance is simulated along with the associated instrument indications, fuel consumption, and sound.

b. Fuel System. The fuel system of the designed aircraft simulates the following: quantity indications, fuel available logic, weight, and center of gravity. Instructor controls are provided to vary the total fuel quantity, including drop tanks, with the range of its capacity. The instructor may freeze the fuel system, at any point during the mission.

c. Electrical Power Supply System. The electrical system is simulated to the extent of cockpit indications and control and bus logic for the generators, utility and emergency electrical backup system.

d. Flight Control System. The design of the basis aircraft's flight control system provides the simulation for feel and aerodynamic response. Simulated operation of the primary flight control is implemented by actual aircraft collective, cyclic, and adjustable rudder pedals at each pilot's position. Control Loading Computer is an off-the-shelf industrial computer supplied by Servo & Control Technology.

e. Automatic Flight Control System (AFCS). Dynamic simulation of the AFCS is provided.

f. Instruments, Indicators, and Displays. The interior cockpit uses faithful replicas and/or same indicators, controls and instruments as found in the production aircraft.

g. Fire Detection/Extinguishing Systems. The fire detection/extinguishing system is simulated to the extent of cockpit indication and engine performance.

h. Entrance/Egress System. N/A

i. Ejection Seat. N/A

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j. Environmental Control System. Non-Functional

k. Communications-Navigation-Identification Equipment

(1) Aural System The Aural System is used to provide simulated aircraft navigation reception (navigational equipment tones), VHF/UHF COMM reception (voice audio), communication side-tones and ICS reception to the flight crew. The system provides for instructor means of communication with the pilot and copilot. The system also provides for instructor communication on selected VHF/UHF radio channels to and from the flight crew. Another function of the aural system is to generate both simulated aircraft and aircraft related sounds or aural cues, as heard from the cockpit. These sounds include engines, rotors, air rush, environmental effects, etc. Aural cueing is accomplished by the computer system that extracts the information from the I/O system and passes that information to the Advanced Simulation and Training, Inc. (ASTi) computer which controls all radio, ICS, and environmental sounds.

1.3 Instructor Operator Station (IOS)

1.3.1 Instructor Operator Station (IOS): The IOS functions as the main control point for setting up training missions, introducing training scenarios, inserting emergencies, communicating and interfacing with the crew station, evaluating training and controlling the overall training environment. The IOS display utilizes user-friendly pull-down menus, and a Computer Based Training package is included with the system to assist operators with the IOS operation.

1.3.2 Instructor Control And Display System. The Instructor Control and Display System allows the instructor/operator to set up and control the training environment and monitor and evaluate pilot and copilot performance. The system allows an instructor to control a crew training lesson plan and insert simulated aircraft equipment malfunctions, testing trainees' knowledge and response to emergency conditions. The system provides for the changing and monitoring of aircraft and environmental parameters and communication and navigational data. Selections and changes are made via the menus and displays with their associated parameter and selection sources.

1.3.3 Principal components of the IOS are:

- a. Console with a work surface
- b. Visual Monitors (CRT) for Trainee Station displays selectable functions to allow for various monitoring criteria.
- c. Input Devices, e.g. keyboards, mouse, trackball etc.
- d. Communication equipment, e.g. headset and control, speakers, microphone and volume controls.
- e. IOS Subsystem Host Computer

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1.4 Tactical Environment Network (TEN)

1.4.1 Simulated Tactical Environment: A tactical environment is simulated in the APT by providing a means for inserting both friend and foe players that are computer-controlled to support training in tactical navigation, weapons delivery (countermeasures), radar operation, FAC(A), etc. Types of players available for insertion include land vehicles, aircraft, boats, air defense assets, and miscellaneous objects. A map is provided to show own-ship and player(s) movement through the tactical environment. The instructor has control of the player's configured weapons load (if applicable), sensor enabling/disabling, etc. This tactical capability is provided and controlled through the Tactical Environment Network (TEN) equipment/software.

1.4.2 TEN Operational Overview: The APT's tactical environment is defined through scenario development and controlled from the Tactical Operators Station (TOS). The TOS is the interface component of the Tactical Environment Network (TEN) and provides the instructor to control mission. It consists of a monitor, keyboard, joystick and mouse. A PC based Veraxx computer is racked mounted.

1.4.3 Operating Modes: The TOS (TEN) operates in one of two modes: IC Modifications (with a Preprogrammed Flight Path sub-mode) or Tactical Modes. When the APT is in IC freeze mode, the TOS is automatically set to the IC Modifications Menu. In this mode, the operators can add/modify/delete tactical players, add/modify/delete formations, and add/modify/delete preprogrammed flight paths. Once taken out of freeze, the TOS automatically converts to the Tactical Mode. During this mode, tactical players can be controlled and deleted. In addition, the interface allows the operator to role-play artillery, naval gunfire, or close air support. The TOS provides the SAC (A) menu that enables events through assignment of bomb (500 or 1,000 pound), smoke (big or small white smoke), or flares. These are normally used in conjunction with FAC (A) exercises when the trainee calls for fire. Bomb events can be programmed for Time Of Flight or Time On Target. Flare events are programmed for Time On Target and Flare Altitude.

1.4.4 Global Positioning System: The TrueTime, Inc. time and frequency receiver mounted in the electronics equipment cabinet is a fully functional Global Positioning System (GPS) receiver used to provide a highly precise and coordinated clock signal to the TEN computer. The unit functions by decoding the signals from the GPS satellites, received through the antenna mounted to the exterior of the shelter, and passing those signals to the TEN computer's internal timing card. Although the GPS receiver will display real-time, real-world position information, this data is ignored by the computer system.

The TEN computer utilizes this GPS-received time signal in order to synchronize to other TEN computer's while operating in a networked environment. By using a world-wide, synchronized time system, the TEN computer located on the APT has the potential to be connected and linked to another device anywhere in the world that can also access this same GPS time signal.

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Since all TEN computer's operating on a network need to have access to the same time information, the CH-53E APT provides two (2) external connection points for sharing this data between co-located WESTPAC trainers. This design approach provides lower initial and life cycle costs by using only 1 receiver for up to 3 devices and ensures that all trainers will be receiving the same data. This transfer of time information is accomplished by using industry-standard RG-58A coaxial cable. In order to provide a clean, non-degraded signal to all devices, the APT employs a TrueTime, Inc. down-converter to boost and filter the received signal and minimize signal loss due to physical cable limitations.

1.5 Computer System, Peripherals, and Interface Cabinets:

1.5.1 IOS Host Computer: The IOS Host computer system consists of a dual Pentium III 1GHz processor system based on an ABIT VP6 motherboard. This system incorporates a quad head Matrox video card, quad port 100baseT Ethernet card, VMIC reflective memory card and two 30.7Gb EIDE Maxtor hard disk drives.

1.5.2 RT Host Computer: The RT Host Computer is a custom assembled dual Pentium III 933MHz processor system based on a SuperMicro 370DLE motherboard. This system incorporates a generic Linux compatible video card, quad port 100baseT Ethernet card, VMIC reflective memory card and one 20.5Gb EIDE hard disk drive.

1.5.3 TEN Computer: is a custom assembled system built to the specifications provided by Veraxx. This computer is interfaced through compatible equipment.

1.5.4 FLIR Computer: is a custom assembled dual Pentium III 1GHz processor system based on an ABIT VP6 motherboard. This system incorporates a quad head Matrox video card, quad port 100baseT Ethernet card, VMIC reflective memory card and two 30.7Gb EIDE Maxtor hard disk drives.

1.5.5 Visual Interface Computer: is a custom assembled dual Pentium III 1GHz processor system based on an ABIT VP6 motherboard. This system incorporates a quad head Matrox video card, quad port 100baseT Ethernet card, VMIC reflective memory card and two 30.7Gb EIDE Maxtor hard disk drives.

1.5.6 ASTi Computer: is an off-the-shelf unit.

1.5.7 Computer System rehost mod includes upgrades to the Host and IOS computers, which consists of a Intel Core 2 Duo T7400 2.16 GHz, 667MNz front side bus, SATA/300 disk I/O, 19 slot backplane. This system incorporates new Intel Dual Port Gigabit ethernet interface, quatech 4-port RS-485 adapter, PCI synchronization interface board (PCISIB), and Nvidia 8800GTS Dual-head video card, VMIC reflective memory (VMIPCI-5565) card. Printer is replaced with a Xerox Phaser 7400/N.

1.6 Aircraft Common Subsystems (ACE):

1.6.1 The following Subsystems include the Heads Up Display (HUD), Control Data Navigation Unit (CDNU), ARD-210 radios, Ground Proximity Warning

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System (GPWS), Mission Data Loader (MDL), 8-day clocks, cyclic stick and collective.

1.7 Power System:

1.7.1 The trainer uses both conditioned and unconditioned AC power, all of which is developed and passed by components found in the Government furnished shelter assembly. Emergency backup power, monitoring circuits, safety circuits, lighting, and utility power is also provided by the shelter components. DC power required by the trainer equipment is developed from the conditioned power received from the shelter and distributed where required. Cockpit lighting is also developed for trainer use. Trainer power safety circuits are provided for emergency lighting, emergency power-off, and power-off due to over-temperature conditions.

1.7.2 Facility Power System: The shelter and trainer assemblies require 120/208V, 3-phase, 60 Hz, 200a input shore power. Power is supplied internally by way of the power/signal I/O panel located on the shelter's exterior. Two separate services are provided: a 200 amp service for use by the secondary shelter components requiring unconditioned power and a 100 amp service for the primary components requiring conditioned power (includes the shelter UPS, shelter safety circuits, visual system, and trainer equipment).

1.7.3 Trainer AC Power Distribution System: Trainer AC power is distributed to trainer equipment in the form of 60Hz and 400Hz power. The following paragraphs provide a functional description of those systems.

1.7.3. 60 Hz AC Power Distribution: During normal operation, 208/110V, 60 Hz conditioned power is routed from the UPS to the trainer equipment by way of shelter power distribution panel PDP-2. This panel houses numerous single-phase and three-phase subsystem breakers. 60 Hz power is required for items such as power supplies, COTS equipment, utility outlets, etc., most of which is cabled to end equipment by way of outlet strips or receptacles. During normal operation, 60 Hz conditioned power is routed from the UPS to the trainer equipment by way of shelter power distribution panel PDP-2. This panel houses numerous single-phase and three-phase subsystem breakers. 60 Hz power is required for items such as power supplies, COTS equipment, utility outlets, etc., most of which is cabled to end equipment by way of outlet strips or receptacles.

1.7.3.2 400 Hz AC Power Distribution: A COTS provides a single-phase 400 Hz continuous wave power supply is provided in the base frame for use by actual aircraft components within the trainer. Equipment requiring 400 Hz includes the pilot and copilot HHSIs, GPWS processor, and signal data converter. In addition, 400 Hz reference is provided to the VME chassis synchro card for creating drive signals for the HHSIs and the signal data converter. The 400 Hz power supply (frequency converter) has been set to generate a voltage level of 115 VAC.

400 Hz power is distributed to the equipment by way of a 400 Hz distribution panel. The panel also houses a step-down transformer for converting the 115 VAC to 26 VAC.

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1.7.4 Uninterruptible Power Supply (UPS): A Mitsubishi 2033C series 20KVA uninterruptible power supply (UPS) with associated battery cabinet/batteries is part of shelter assembly. Under normal circumstances, it provides for continuous and clean (conditioned) electrical power to the trainer critical loads. The UPS receives input facility power from a 100 amp main circuit breaker and its outputs are routed to power distribution panel PDP-2. The UPS has four operational modes:

- Normal - Facility power is converted to dc and passed to both the battery charging system and the unit's inverter circuitry. The inverter converts the DC power to clean, conditioned AC power. Voltage transients and/or fluctuations are eliminated by this process and the output sent to the critical load. Batteries are constantly being charged during normal operation.
- Internal Bypass - An automatic mode in which unconditioned facility power is passed directly to load via an internal static bypass switch. Internal Bypass mode is active when the UPS module is de-energized prior to selecting the START button (if currently off with facility power present) and active momentarily during initial UPS start-up. UPS automatically switches to Normal mode when the unit has been switched on and is ready to start conditioning power.
- Battery - Mode entered automatically when facility power is interrupted. Load powered through internal inverter under battery input to maintain continuous AC power. Mode remains until facility power is returned or until battery power is exhausted to the inverter (low battery shutdown occurs). The converter automatically restarts operation in the Normal mode when facility power is restored.
- Maintenance Bypass - A user selectable mode for diverting facility power directly to the load. For use during maintenance or when the internal circuits of the UPS are not functioning properly. Provides the means of supplying temporary unconditioned power to the load. A rotary Maintenance Bypass switch, located behind the cabinet front door (lower section), is provided to manually place the unit in Maintenance Bypass mode. This switch should never be used while the UPS is operating in Normal mode. The UPS must be in Internal Bypass mode before placing the switch to the TRANSFER or BYPASS positions.

Numerous controls/indicators are provided on the UPS for starting, stopping, initiating emergency power off (for UPS unit only), reporting modes, reporting failure codes, silencing an audible alarm, and clearing faults.

1.8 Visual System:

1.8.1 The CH-53E trainer consist of four (4) Barcographic projectors, type Barco 808C, an ESIG model 5530, a toroidal screen, HSVGA monitor and Video Switcher. The visual system displays the out-the-window (OTW) visual scenes to support the student training. Scenes are generated via modeled databases stored in the IG combined with simulated on-ground and in-flight inputs from the student pilot interfacing with cockpit controls. The field of view (FOV) for each of the OTW channels is software controllable to match the

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applicable projection system. The Visual gaming area databases covering Okinawa, East Coast, West Coast and Korea.

1.8.1.1 Visual System Upgrade mod includes replacing old projectors with four (4) Commercial-Off-The-Shelf (COTS)VDC Marquee™ 8510LC projectors systems equipped with 8" projection CRTs, HD-117-24 lenses and an Aechelon pC-Nova 4.0 image generator. A VDC adapter plate is used to mount the VDC projectors to the current APT overhead mounting structures.

1.8.2 Image Generator (IG). The IG provides the graphic processing resources necessary to develop the image being projected on the visual screen. The IG databases incorporate the use of both primary and generic airfields that include runways with lighting, markings, and buildings where applicable. The database consists of a polygonal, global textured terrain skin decorated with two- and three-dimensional features models, dynamic moving models and special effects.

1.8.3 Visual Screen. Visual screen is a curved vinyl screen stretched onto a rigid modular frame. A vacuum pump is used to create negative pressure behind the screen surface thus forcing the vinyl to contour to the shape of the frame.

1.8.4 FLIR Video. A fifth video output is routed to the IOS FLIR computer and FLIR hardware. FLIR video overlay is used to set up the video for the FLIR PDU in the cockpit. The TV monitor can display the FLIR video or cockpit camera video by switching inputs on the Video switcher. The FLIR is displayed on the Primary Display Units (PDU) in the crew station.

1.9. Motion System: Seat shaker

1.10 Air Conditioning System:

1.10.1 The CH-53E trainer incorporates its own air conditioning system.

1.11 Motor Generator Sets: N/A

1.12 Enclosure:

1.12.1 Device 2F171 is a Mobile Enclosure System Training Device that is designed for use in various locations. The enclosure used is referred to as the Device Shelter. The shelter provides an optimal operating environment for the various equipment that make up the Training Device. The shelter is designed to be deployed on a level concrete pad.

The shelter is fully transportable and designed for fixed operation at various locations. It is equipped with controls, devices, instruments and environmental protection to ensure maximum safety and survivability. The device shelter features certain transport and installation characteristics inherent in the shelter design. Overall dimensions allow for transport by air, land and sea. For shelter particulars refer to Installation Manual..

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2.1 Illustrations:

Complete lists of illustrations are available at each training device location.

3.1 Mission Essential Subsystem (MESM):

A Training device is in a Partial Mission Capable (PMC) status, when it is placed in an operational ready condition but is less than 100% operational. A PMC trainer may not be capable of performing all mission functions, but is capable of performing at least one mission or more. PMC levels are described by Equipment Operational Capability (EOC) codes, which relate a particular system/subsystem to a specific EOC Code. The EOC code also relates to the Partial Mission Capability Factor (PMCF), the percentage of degradation that is used to determine Partial Mission Capability Quantity (PMCQ).

<u>EOC</u>	<u>% Mission Capable</u>	<u>% of Deduction</u>
B	100	0
C	94-99	5
D	88-93	10
E	82-87	15
F	76-81	20
G	66-75	30
H	56-65	40
J	51-55	50
Z	GREATER THAN 50	100

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4.1 CONTRACTED TRAINING TIME (CTT)

Training Operations shall be provided in each FY as per exercised contract CLIN/SLIN per device from one of the stair steps below:

2F171-1 CH53E APT Contracted Training Time (CTT) Monday thru Friday (M-F) MCAS Futenma, Okinawa			
Hours per Day (HPD)	Hours per Week (HPW)	Start Time (local) (Notional)	End Time (local) (Notional)
2	10	1000	1200
4	20	0800	1200
6	30	0800	1400
Remark(s) / Note(s)			
1-CTT time represents continuous hours of device operational training availability from initial START time. 2-CTT does not include weekend (Saturdays/Sundays) training, and no weekend training planned. 3-CTT daily Start Times are notional and may vary/shift with coordination and direction from the Contracting Officer's Representative (COR)/site scheduling authority and may change during the course of the Task Order. (Refer to Addendum A, paragraph 4.3.1). 4-CTT may be shifted between devices with coordination and direction from the Contracting Officer's Representative (COR) and Contractor Site Manager. 5- To facilitate compressed work weeks (less than five (5) training days), due to site schedules, the Government may exceed the device daily HPD requirement up to a maximum of (8) HPD, not-to-exceed (NTE) the contracted HPW, without incurring Premium Time (PT) requirements, and only with prior COR and Site Manager coordination. (Refer to Addendum A paragraph 4.1.3.4, Premium Time) 6.- Training hours may be transferred to CH-46E during training day as long as total of both CTTs does not-to-exceed 8 hours.			
Table 4.1			

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5.1 Aircraft Common Equipment (ACE)

Complete list of ACE can be found in the inventory list provided at each site.

The Material Support Package (MSP) inventory of this solicitation will be determined by the results of CDRL A005 "COMS/CMS CONTRACTOR INVENTORY/UTILIZATION REPORT OF GFP/GF". The results of the transition inventory will be verified and signed by the site COR prior to Contractor's submission of CDRL A002 to the Government.

NOTE: Whenever minor configuration changes, calibration or adjustment of aircraft common equipment is required for use in the trainer, such information shall be provided in this Appendix.

5.2 Trainer Equipment. Depot level (D-level) maintenance for the following trainer equipment is the responsibility of the government.

Complete list of D-level trainer equipment will be provided at each site.

5.2.1 Trainer Support Package (TSP): Includes Tools/Support Equipment, Spare Parts, Technical Data Support Package, and Software Support Material. The formal inventory (i.e. tools/support equipment, spare parts, technical data support package, and software support material, etc.) shall be those items identified during the mobilization period and stated in the yearly Inventory/Utilization Data Report. The Contractor shall comply with the development, maintenance and submission requirements for this report, as stated in the applicable CDRL item."

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6.1 PARTIAL MISSION CAPABILITY (PMC) STANDARD

NOTE: PMC is the material condition of a training device that cannot perform all of its missions. PMC levels are described by Equipment Operational Capability (EOC) codes, which relate a particular system/subsystem to a specific mission. The EOC code also relates to the percentage of deduction from the authorized payment for the affected period.

EOC	% MISSION CAPABLE	% OF DEGRADATION
B	100	0
C	94-99	5
D	88-93	10
E	82-87	15
F	76-81	20
G	66-75	30
H	56-65	40
J	51-55	50
Z	less than 50	100

6.2 ESSENTIAL SUBSYSTEMS/CONDITION REQUIRED FOR TRAINING EVENTS

NOTE: PMC is the material condition of a training device that cannot perform all of its missions. See above chart for percentages.

SUBSYSTEMEOC CODE**1. TRAINEE STATION - PILOT/COPILOT**

Master Caution Light	G
Airspeed Indicator	D
Attitude Indicator	E
Barometric Altimeter	D
Radar Altimeter	F
Quad Tachometer	D
BDHI Indicator	D
Vertical Velocity Indicator	D
Clock	D
Triple Torquemeter	D
Flight Controls - Pedals	F
Flight Controls - Collective	H
Flight Controls - Cyclic	H
Trim Pedals	D
Trim - Collective	F
Trim - Cyclic (Thumb Button)	F
Trim - Cyclic (Coolie Hat)	F
Master Fire Warning Light	G
ALE-39 Initiate Switch (4 Way Toggle)	E
Seat Height or AFT/Fore Adjustment	D

SUBSYSTEMEOC CODE

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CDI	E
CG Hook Load Indicator System (Co-Pilot Only)	C

1A. TRAINEE STATION - MISCELLANEOUS

Standby Compass	C
Cockpit White Lights	C
Secondary Floodlights	C
Master Caution Panel	G
Gas Generator (Ng) Tachometers	D
Power Turbine Temperature (T5) Gage	D
Course Indicator Control Switch	D
BDHI Control Panel	D
Chip Locator Panel	E
Fuel Gage Test Button	C
Fuel Flow Gauge	C
Fuel Flow Lights	D
Fuel Quantity Gauges	D
Engine Oil Temperature Gauge	E
Nose Gearbox Oil Temperature Gauge	D
Main Transmission Oil Pressure Gauge	D
Main Transmission Oil Temperature Gauge	D
Hydraulic Quantity Gauge	D
Landing Gear Position Indicator	F
Stick Position Indicator	C
1 st Stage Hydraulic System	F
2 nd Stage Hydraulic System	F
Utility Hydraulic System	F
HNVS System	D
NVG	F

1B. TRAINEE STATION - LOWER CENTER CONSOLE

Emergency Control Panel	F
UHF Control Panel	D
AFCS Control Panel	G
Parking Brake	C
VOR	C
ILS	C
Fuel Dump System	C
Aux Tank Jettison System	C
Comm 1	C
Comm 2	C
ALE-39 Control/Arming Status Panel	D
APR-39 Indicator	D
AN/ALQ-157 Indicator	D
AAR-47 Control Indicator	D
Radar Altitude Hold System	D
Barometric Hold System	D
Omega/GPS	D
NDB	D

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SUBSYSTEMEOC CODE**1C. TRAINEE STATION - OVERHEAD CONSOLE (COPILOT'S SIDE)**

Exterior Lights Control Panel	C
Interior Lights Control Panel	C
Turn Rate Transfer Switch	C
VG Transfer Switch	C

1D. TRAINEE STATION - OVERHEAD CONSOLE (CENTER)

Ramp Control	C
Cargo Hook Control Panel	C
EAPS Control Panel	C
Speed Control Lever	G
Fuel Control Lever	F
Engine T-Handle Fire Lights	F
Emergency Start Switch	D
APP Bypass Switch	C
APP Control Handle	D
APP Fire Light	E
APP Tachometer	C
APP Exhaust Gas Temperature Gauge	C
Fire Warning Test Panel	D
Anti-Ice Detect Switch	C
Engine Anti-Ice Switch	C
Engine Overspeed Test Switch	C
Generator Control Switch	F
High Pressure Rotor Brake Switch	D
Low Pressure Rotor Brake Switch	D

1E. TRAINEE STATION - OVERHEAD CONSOLE (PILOT'S SIDE)

Blade/Pylon Fold Panel	C
Turn Rate Transfer Switch	C
VG Transfer Switch	C
Radar Altimeter Set Button	C
Interior Lights Control Panel	C

2. INSTRUCTOR/OPERATOR STATION (IOS)

IOS Keyboard	D
Instructor Displays	G
Emergency Lighting System	F
Performance Playback	D
Demonstration Mode	C
Emergency Off (Hydraulic)	G
Emergency Off (Electrical)	G
ICS Station	F

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<u>SUBSYSTEM</u>	<u>EOC CODE</u>
3. VISUAL SYSTEM	
Forward field of view (Channel #1)	J
Left side field of view (Channel #2)	H
Right side field of view (Channel #3)	H
Left side field of view (Channel #4)	F
Right side field of view (Channel #5)	F
4. AUDIO/AURAL SYSTEM	
1 or more environmental sounds	F
5. MISC. SUBSYSTEMS	
Flight Control System	J
Printer Plotter	C
Entry Ramp	E
Cockpit Air Conditioning	J
6. COMPUTER/PERIPHERALS	
HOST COMPUTER	Z
IMAGE GENERATOR COMPUTER	J
AIRCRAFT INTEGRATION MODE	H
TEN COMPUTER	H
IOS COMPUTER	H
7. POWER DISTRIBUTION SYSTEM	
POWER DISTRIBUTION UNIT	J
400Hz. GENERATOR	J
UPS	G
8. MISCELLANEOUS SYSTEMS	
TRAINER AIRCONDITIONING SYSTEM	Z